AXION BIOSYSTEMS

CYTOVIEW MEA 48

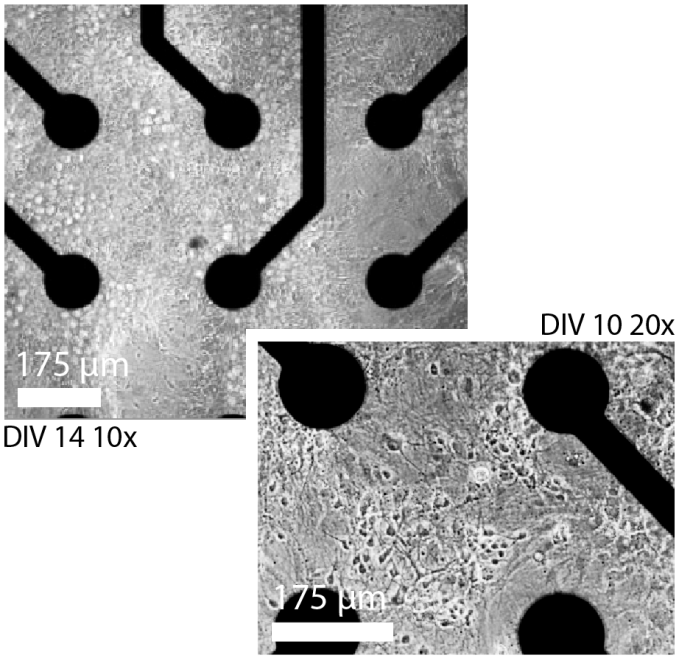
GET MORE FROM EVERY ASSAY

Transparent MEA plates

CytoView microelectrode array (MEA) plates for the Maestro MEA platform combine unparalleled access to cellular electrical network information with a thin, transparent plate bottom for culture visualization and assay multiplexing. Similar to Axion BioSystems' Classic MEAs, CytoView plates contain the same industry-leading electrode count per well, deliver the same low-noise signal, and retain the ability to be read over days, weeks, or months.

Cell visualization and assay multiplexing

The innovative, transparent plate bottom offers additional assay flexibility including cell visualization and assay multiplexing. Bright field imaging enables confirmation of cell spotting accuracy, and correlation of cell culture health and connectivity with MEA results. Multiplex fluorescence- or luminescence-based assays with your MEA study to probe complementary end points.



Bright field images of primary rodent cortical neurons at DIV14 (10x magnification) and DIV10 (20x).

CytoView™ MEA 48 - Black (M768-tMEA-48B) and White (M768-tMEA-48W) plates. Inset: Schematic of the well illustrating 16 recoding electrodes (blue), and grounds (orange).

THE CYTOVIEW ADVANTAGE

- Industry-leading electrode count for detailed information from every well
- PEDOT electrode technology ensures collection of the highest quality signals
- Compatible with light microscopy for daily culture monitoring
- Multiplex your assay with top- or bottom-read fluorescent and luminescent plate readers
- Choose between black or white walls for optimal application flexibility

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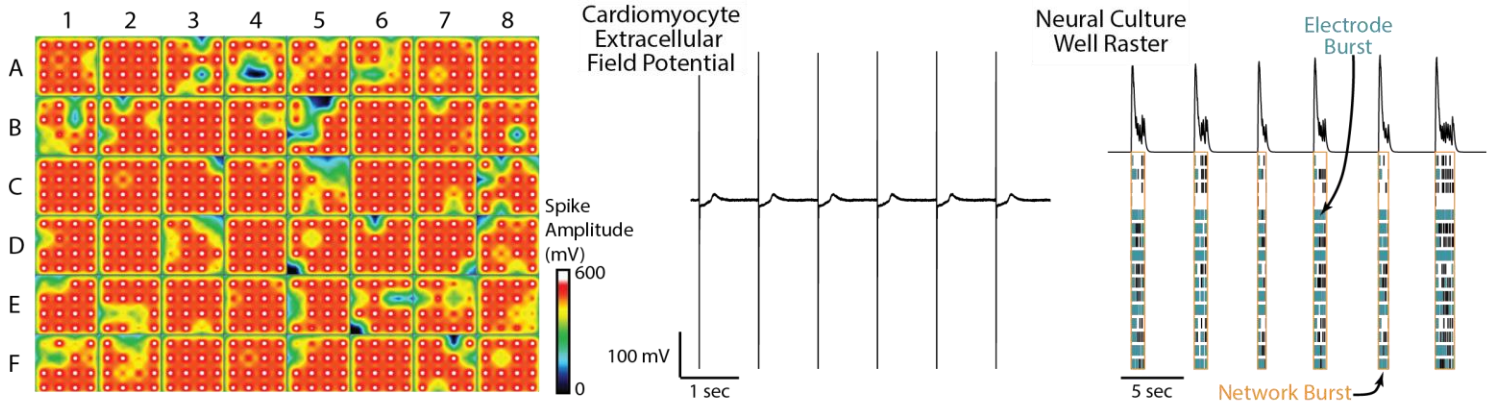
HIGH QUALITY MEA DATA

Both cardiomyocytes and neurons perform well on the CytoView MEA plate, showing excellent coverage across all wells and the high signal-to-noise ratio Axion customers expect.

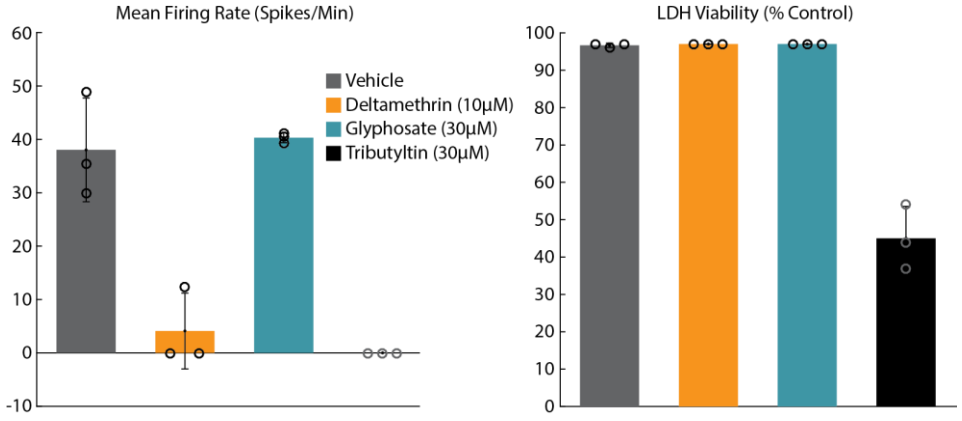


(Left) Spike amplitude activity map of hiPSC-cardiomyocytes showing excellent coverage across wells on a CytoView MEA 48. (Middle) Single electrode voltage showing cardiomyocyte extracellular field potentials. (Right) Well-wide raster plot showing spikes across all 16 electrodes and network connectivity resulting in network bursts.

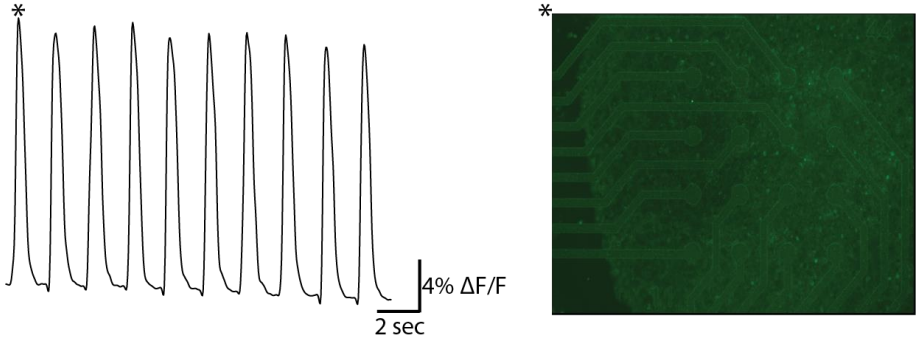
ASSAY MULTIPLEXING ENRICHES MEA DATA

With the introduction of the transparent CytoView plates, reporter-based (ex. fluorescent or luminescent) assays can now be used to complement MEA data generated from the same well. The combination of electrophysiological data with report-based assays can provide supplementary information regarding compound mechanism of action.

In a neurotoxicity assay, compounds were assessed using MEA electrophysiology data from Axion's Maestro platform multiplexed with a fluorescence lactate dehydrogenase (LDH) cell viability assay. Multiplexing enabled greater specificity for compound classification compared to MEA data alone. Both deltamethrin and tributyltin reduced mean firing rate, but only tributyltin reduced cell viability. (Data provided by external Maestro customer.)



In a hiPSC-cardiomyocyte MEA assay, Ca^{2+} dye imaging was utilized to track intracellular calcium transients. (Left) Changes in fluorescence over time measured in the spontaneously beating monolayer. (Right) Representative peak fluorescence image. (Data provided by Cellular Dynamics International.)



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